As I write these comments, hundreds of Radio Amateurs have mobilized in Arizona and New Mexico to assist with emergency communications at devastating wildfires that have already destroyed hundreds homes and threaten the city of Albuquerque itself. This spring, Radio Amateurs from several states assisted in the aftermath of killer tornadoes in the Midwest. The Amateur Service provided the only reliable communications during the recovery of debris from the Space Shuttle Columbia. Whenever duty calls, Radio Amateurs respond.

This week, more than 100,000 U.S. Radio Amateurs will participate in a Field Day exercise in which we demonstrate that we can provide 24 hours of nationwide, hemisphere-wide, even worldwide communications from remote locations, with portable equipment, under adverse circumstances.

In schools across the United States, volunteer Radio Amateurs like myself use Amateur Radio to teach pre-teens and teens Science, Math, Geography, and (perhaps most important) listening skills. It is the perfect teaching vehicle; the students learn because it interests them, not because they have to. These students represent the next generation of scientists and engineers that our country will need to sustain prosperity.

Much of Amateur Radio's value to society is threatened if Broadband over Power Lines (BPL) is not carefully regulated. BPL has the potential to cause significant interference to Radio Amateurs and users of other radio services. For example, emergency communications are rarely conducted under optimum conditions. The ability to relay accurate information under adverse conditions is essential to providing reliable emergency communications. Interference can substantially degrade communication in a life-and-property emergency. Essential communications that are otherwise merely difficult become totally impossible. The impact on education will also be profound. Teaching students about people in faraway places requires that we can hear those places.

BPL has been adequately studied in Japan, The Netherlands, Great Britain, Germany, Finland, Norway, Poland, and other countries. Data from these studies are presented at http://www.arrl.org/tis/info/HTML/plc/#Amateur_Interference_Studies and should be evaluated and understood by the FCC before any rulemaking. The data should also be evaluated and understood to ensure that the testing process itself doesn't cause harmful interference to Amateur Radio, radio astronomy, and other services.

The FCC can do much to ensure that this BPL technology is evaluated in a fair and unbiased manner by ensuring that stakeholders are involved in the testing process and by providing reasonable protocols for prompt relief when interference does occur. Specifically:

1) Test plans should be published by the power line utilities so that they can be evaluated by licensed spectrum users prior to the start of testing.

2) The FCC should require that stakeholders like the ARRL are involved in the design and conduct of tests. The ARRL has considerable expertise in matters of

Radio Frequency interference, including the aforementioned in-house repository of the results of other tests worldwide. The ARRL can assist by developing unbiased testing strategies that quantitatively evaluate the interference caused by BPL.

3) The FCC should maintain a clearinghouse, either a database or website, that informs the public and users of other radio services where, when, and how these tests will occur. Information needs to be disseminated prior to testing so that quantitative measurements of pre-test background noise level and the impacts of the tests themselves can be collected by other users of the spectrum.

4) The FCC needs to regulate BPL in a manner that does not pit one group of citizens against another, BPL users against spectrum users, neighbor against neighbor. This regulation needs to be twofold: first, to provide prompt and effective relief from interference to licensed users of the spectrum; and second, to require that BPL systems be designed to be relatively immune to interference from licensed users. Under Part 15, the burden of non-interference rests on "equipment operators" of Part 15 devices. Who are the operators? Power line companies or individual BPL subscribers? The burden of promptly mitigating interference to and from licensed users should be well defined and should be placed on BPL providers, not the licensed spectrum users or BPL subscribers themselves.

5) The FCC should consider regulating BPL interference in some manner more stringent than as an "intentional emitter" under Part 15. The permitted emission limits for this type of device at amateur frequencies might offer minimal protection to the amateur spectrum when used to regulate an occasional neighborhood point source, but will be ineffective in preventing harmful interference from BPL. Typical communities have hundreds of miles of power lines, all of which are potential radiators. HF noise emissions from these power lines, if regulated with the Part 15 standard, will be hundreds (if not thousands) of times stronger than typical communications received at an amateur installation.

It is easy to see why the FCC is interested in BPL. BPL has the potential to provide additional competition and cost-effective broadband access to users in all but the most remote rural areas. Alternative use of existing infrastructure is potentially an intriguing idea, although there should be healthy skepticism about the infrastructure's ability to perform tasks far different from its original intended uses.

However, BPL technology should not be adopted in haste, at the expense of the wholesale sacrifice of other modes of communication. The FCC needs to approach BPL as a regulator, not as a cheerleader, and must not be afraid to say to the utilities "No, there are still too many problems, it's not ready yet, go back to the drawing board." This objectivity can only be achieved if the testing and regulation processes are open and unbiased and if the regulatory environment is appropriate for the potential consequences.